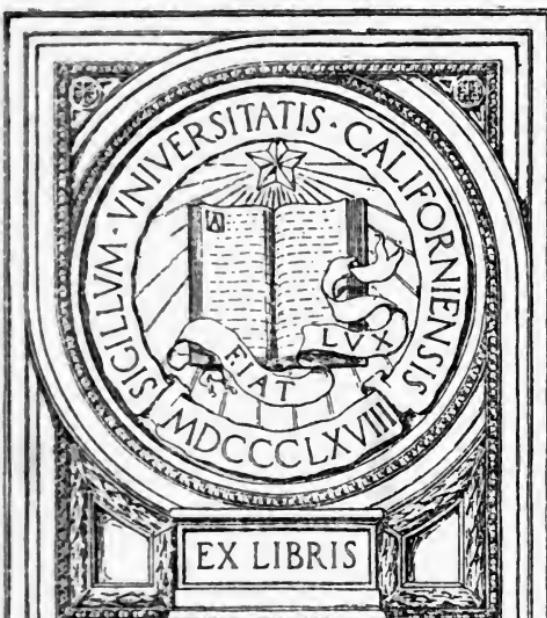
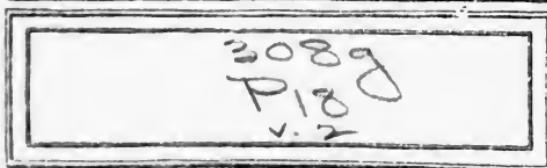


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Addresses delivered on the occasion of the Dedication of Agriculture Hall, Berkeley, November 20, 1912

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ADDRESS OF PRESIDENT BENJAMIN IDE WHEELER

Of all departments of the University the well-being of the State is most closely interlocked with the College of Agriculture. It is therefore both for University and State a significant occasion when on this one day we dedicate a new building for agriculture, induct into office a new Director, and inaugurate a new and far-reaching policy for the organization and equipment of agricultural education.

Our problem in California is among all the states as uniquely complicated as it is uniquely vast. The variety of our products of the soil far exceeds that of any other state. The tilling of our soil requires for efficiency more use of special knowledge and of the results of scientific investigation than the agricultural practice of any other state. Whether it be for the production of wealth or for the establishment of homes and the morals of the family, the prosperity and soundness of the state is chiefly dependent on the farms and the farmers. If you want population, commerce, and bank deposits for your cities, seek thrifty farmers, and sound procedure for your farms, and all these other things "shall be added unto you."

The Regents, in fashioning a policy which should assume to be in some wise commensurate with the need of the state, have determined first of all to seek an equipment in men. In making selection they have looked the country

over; their question has been,—not whom they could get, but whom did they want. Five such men they have already appointed to full professorships, and these with others to follow will begin work with us either at New Year's or the coming summer. We have reckoned hereby on Californians as likely to recognize that the best is precisely what they want.

The second feature of our policy involves the clear differentiation of the various forms of our work and the development of each into its proper place. Berkeley, Davis, Riverside, Whittier, Meloland, have each their place and work. They are not rivals, but each the center for a certain sort of work. Each has its own fitness. Fresno will shortly be added to the list. The distribution of the work among these centers will be discussed this evening by Director Hunt in his inaugural address.

But more important than the various places are the various activities, e.g., research and the solving of problems, training in the science of agriculture, training in the arts of agriculture, provision of short courses, spreading of information through publications, farmers' institutes and the train and through correspondence, training of teachers and provision of methods for agricultural education in the schools.

Experience with the school at Davis proves that the provision of education for young farmers who have passed the age when they could be expected to go through the schedules of a preparatory and a college course is a real need. This was really what the farmers wanted when agricultural education was first attempted, only we did not fully understand them. It is fortunate we can develop this form of instruction at a distance from the university. Equally important is it that the stricter training in the science of agriculture which is to provide the teachers and discoverers should be conducted at least in the earlier years at the university.

What we saw once as in a glass darkly, we are coming now to see clearly. We have with all this variety of equipment and location the opportunity to develop in California the completest and richest system of agricultural education and research that the world has yet seen. We have made our beginning. We have the place for it, and the sky for it, and the heart for it. We will prove it to the people of California well worth while and they will support us.

ADDRESS OF THOMAS FORSYTH HUNT
ON
THE MOTIVE OF THE COLLEGE OF AGRICULTURE
OF THE UNIVERSITY OF CALIFORNIA

The men and women connected with the College of Agriculture and Experiment Station have for their aim the development of the agricultural resources of California. The word *agriculture* is here used in its broadest significance: namely, the economic production of living things. The agency through which this body of men and women is to accomplish its purpose is the University of California, but I wish here and now publicly to announce that they are eager to co-operate with all other agencies—federal, state or private—which may have for their main purpose the maintenance in California of a successful family life.

The assertion of Dr. Carver is fully accepted, that if one admits that life is worth living, he who allows the love of money, or power, or land, or science, or literature to interfere with the rearing of a noble family commits a criminal act. It is not necessary that every one should assume the marriage relation, but when a couple has taken each other for better or worse, it is a crime to permit any other motive or ambition to prevent the rearing of a worthy family. A man's business should be his means of making a successful home and not the means of getting a front page illustration. Between the age of twenty-five and fifty the wife may well assist in this enterprise.

I was permitted recently to sit at the table of a capable woman. She exclaimed: "I am a free woman. I am fifty. I no longer need to conceal my age." According to the law of probabilities this woman has twenty years to devote through education and politics to promoting the social welfare. The women of her class have the power to become through their mature judgment and culture the greatest and most benign influence in every community.

It is so plain that he who runs may read that not only can no development of agriculture be considered wise which does not lead to a successful family life, but that in California a proper development of its agriculture is essential to this end. The acceptance of this doctrine by the Anglo-Saxon race would solve many if not most of the difficulties which beset the body politic. It is the home-loving people who inherit the earth. It is the immediate duty of the College of Agriculture through research and education to make the agriculture of California more prosperous. Through its various divisions, it is straining every nerve to solve the material problems which beset those who create wealth from the soil. It is its chief duty, however, to develop those methods of agriculture which are of greatest benefit to society. The College of Agriculture is not primarily interested in whether the profits of agriculture enable the ranchman to substitute for his \$3000 automobile a \$5000 motor car, but it conceives its chief concern to be a prosperity that leads to the proper economic, social, moral and spiritual ideals in the community.

When the interests of the individual and those of society become opposing forces, then here as elsewhere in the history of the human race individual interests must be sacrificed for the benefit of the common good. Lest I be misunderstood, permit me to moralize for a moment. While the trait which we honor most in any individual, the trait which has made all truly great heroes, is sacrifice, it does not follow that there is no virtue without sacrifice. In the new conception of a successful life, we do not have

prosperity without morality, but we have prosperity because of morality. Efficiency and morality may not be synonymous terms, but they are mighty good chums.

This, then, shall be the keynote of the College of Agriculture. Those who shape its destinies will never forget that it was formed and continues to exist to promote the material welfare, but they will always recognize that this material welfare is for the sake of a successful human existence and that primarily this is based upon human efficiency. Five thousand years ago the natural resources of these hills and valleys were, so far as we know, as great as they are to-day. The Aladdin-like development that has occurred from Imperial to Shasta during fifty years is due to a hardy and efficient race of people. This race must be perpetuated. Once more I wish to repeat that the faculty of the College of Agriculture invites the co-operation, support and guidance of all agencies which believe in this programme.

If now we take a hasty glance into the future we cannot fail to be impressed by the fact that the two great problems before California are to stabilize its water supply and humanize its labor supply. A few simple concrete illustrations may be better than much abstract discussion. In the Salt River Valley, Arizona, approximately ten million dollars have been expended, including the great Roosevelt Dam, to stabilize the water supply over 130,000 acres of already irrigated country and to bring 100,000 acres of the desert under the irrigation ditch. It was expected that this greatest reclamation enterprise in the United States would furnish about two dollars' worth of water per acre. In other words, a gross income per annum of about one-half a million dollars was anticipated. Although the enterprise has scarcely been completed in all its details, already it has contracts for one million dollars worth of electric energy. It is said that there is nowhere any more livable region than in the foothills of the California mountains. Here can be developed unlimited power without the loss of any

natural resource except the oil required to lubricate the machinery. In developing the power, the water in the valleys will be mobilized. When this is accomplished California will have ten millions of people in place of two and a half millions. The slogan for California should not be one million persons for this or that city, depending upon which part of the State one is from, but two million families for California. Cover your hills and fill up your valleys with homes, and the cities will take care of themselves.

A certain rich man who made himself wealthy by mixing a well known California product with a commodity not unknown to any state and selling it as a cure for various ills, purchased a considerable tract of land in a State famous for the Presidents which it has produced and began breeding Percheron horses. This man had the money to buy the best horses of the breed. He was capable of employing the most expert superintendents. The soil and climate were sufficiently like that of "La Perche" to satisfy the requirements of horse breeding. One day I chanced to meet a groomsman, who declared that the enterprise was doomed to failure. "Why?" he was asked. "Because the Percheron horse is the result of loving care by generations of farmers. Mr. Blank, with all his millions, cannot purchase these generations of men without whom these horses are not possible." Our rich friend still operates his land, but he has long since ceased to try to breed horses.

California has rich river valleys whose conditions are like those which generations of Holland farmers have made famous. Canada has its agents in the lowlands inducing the Holland farmers to migrate to this northern country, while our river valleys with their mild climate remain undeveloped. To develop this State with the least human sacrifice some selective process of locating people upon the land is needed. It is said that the farmers in the countries bordering upon the Mediterranean Sea are now saving their money against the time of the opening of the Panama Canal. When the thrifty Mediterranean folk come to our shore it

will be the first time in the history of the world that these races have migrated to a country which was similar in its possibilities to their own. To entice these people upon land by means of "decoys" would be a social and economic crime. We need to study the history and adaptation of the peoples who now live in regions with natural conditions similar to our own. Instead of alluring the off-scourings we should by some selective process secure the intelligent, thrifty, moral countryman whose generations of experience will help to develop this country. When he arrives he should be located among natural conditions with which he has been familiar and protected until he has his industry upon its feet. It would be a form of protection that would protect. If you wish to compete with the peoples of the world you must develop in every locality that industry which naturally does best in that particular region, and you must put it in the hands of people who are the most expert in that particular industry. By no other process can a state be developed to its highest efficiency.

The President and Board of Regents will be asked to establish a department in the College of Agriculture to be known as the Department of New Agricultural Industries. Already the United States Department of Agriculture and the State Experiment Stations have done splendid work in Plant Introduction. The introduction of a plant and the establishment of an industry upon that plant, however, are two widely different things. This department of New Agricultural Industries will not be a department in the ordinary sense of the term. Its duty will be to study the agricultural industries of regions having conditions similar to California and to study our own State with reference to any industries which investigation may seem desirable to transplant. Last week we were told that Palestine is an exact counterpart of California, except that Palestine is only one-tenth the size. Within this diminutive area it duplicates the Sacramento and San Joaquin valleys, the valleys of the coast and the

Sierra Nevadas and Coast Ranges. There is the same variation in climatic conditions and above all they have a four thousand year old agriculture. No one knows what agricultural lessons this old world holds in store for us. Perhaps it may yet enable us to become the greater Palestine of a new civilization.

We have been discussing a century long programme and a state wide movement. Every man and woman in this audience will have been gathered in by Father Time long before our water supply has been fully stabilized and our labor supply fully humanized. We are not now dealing with the individual, but with society. If society is not able to look beyond the confines of its individual members it is doomed to eternal damnation.

It may have occurred to some of you that the questions which have been discussed are beyond the realm of the institution which I for the moment represent. What has been said is for the purpose of emphasizing the fact that the University of California is perforce the leader of thought in all that relates to the welfare of the State and its College of Agriculture, if it is to be effective, must be the leader in all that relates to the development of Agriculture. To fail to accept such leadership would be to fail to understand the responsibility that is placed upon it. Any other attitude upon the part of the people, whose child the institution is, would be reprehensible.

Pedagogically speaking—I use that phrase because I do not know what it means—the College of Agriculture has two ambitions: one is to become the post-graduate institution in Agriculture for the western third of the United States, and the other is to supply the demand in California for teachers of agriculture in the secondary schools. To receive the agricultural graduates of the western third of the United States and train them for greater service in the institutions from which they came is not only a privilege but a responsibility and one which every other institution will welcome. If this institution assists in the prep-

aration of the future instructors and investigators of our western colleges and prepares the teachers of agriculture for the high schools of California, it will be performing a service of untold value. The two ambitions to which reference has just been made are, of course, after all only a minor. What of the educational work of the College of Agriculture?

In developing our undergraduate departments, at least some of them will be organized around the industries. Already we have the Department of Dairy Industry, Animal Industry, Agronomy or field culture, Citriculture, Viticulture, Pomology or deciduous tree fruits, Floriculture and landscape gardening. The reasons for this are many and complex, but one important reason is that we are not teaching subjects, but students. The student is going to become a lawyer, or a citrus grower, or a doctor, or a stock raiser, or a teacher, or a dairyman. Harvard was founded to train ministers and afterwards because ministers gave so-called medical advice, it began to train physicians. Later lawyers were brought in out of the rain.

The land grant colleges were founded to train young men and women in the several pursuits and professions of life, of which housekeeping is one—in some localities. The difficulty with agricultural teachers has been that they have been absorbed in the pursuit of knowledge and obsessed with the importance of their discoveries. Greek must be made a good training subject or it cannot justify its existence in the university curriculum. Agriculture can be made just as good a training subject if we remember we are dealing with young men who have red blood in their veins and who have an ambition to live a life of usefulness and power. If we forget it, they had better study Greek.

The successful teacher of agricultural subjects must not only be concerned with his subject and with his students, but if he is also an investigator, as every good teacher should be, he must concern himself with the people in the industry which he teaches. There is no state in the Union where

it is so necessary for the agricultural professor to know thoroughly his subject before he undertakes to deal with the men who make their living from agriculture as here. In California they do not hunt grizzlies with shotguns.

The College of Agriculture is not merely a teaching institution. It has three phases: research, education, and public service. When it comes to organizing its research work, especially where large questions and interests are involved, we shall organize around the problem rather than around the industry. These strictly research departments will not be charged with undergraduate teaching, but will be permitted to take post-graduate students. A real post-graduate student is one who is working out some problem. Thus there has been organized a research department with headquarters at Riverside. There has been called to preside over this department Dr. H. J. Webber, Professor of Plant Breeding of Cornell University, who is one of the best known teachers of post-graduate students in this country.

In the location of its headquarters the College of Agriculture is somewhat unique among institutions of its kind. Its location has been looked upon as an element of weakness. As the institution develops, I think it will be found to be, on the contrary, an element of great strength. It puts us face to face with the problem of how to give to the students of agriculture the training and experience which they must have in order to succeed in any one of several agricultural pursuits. The plan is to bring the student to the close of his sophomore year with as thorough a training in English, mathematics, language, history and science as his years of schooling will permit. In addition to these studies, each student before reaching the junior year is to receive instruction in the following four agricultural subjects:

Agricultural Chemistry;

Soils;

Plant Propagation;

The Principles of Breeding Plants and Animals.

The last I consider almost as fundamental as the English language.

It is believed that the work of these four subjects should be required of every student, whatever agricultural profession or pursuit he may subsequently follow. Since they are to be required of all students of agriculture and since they are the first technical ones in the student's course, great care will be taken to secure for these four subjects inspiring teachers. The student who does not come early in his course in contact with, at least, one teacher that inspires him with the love of scholarship and his subject misses the best part of a college education. After instructors have been called they will not be permitted to place these sophomore subjects in the hands of assistants, while they confine their teaching to upper classmen.

Having brought the student to the close of his sophomore year, when he must decide in what agricultural profession or pursuit he will specialize, the question arises how, with our present headquarters, we can offer him suitable training. During the past decade forestry schools have been compelled to study this problem. It is possible to locate an institution on a farm, but there are some difficulties in locating it permanently in a forest. The approved plan in forestry schools now is to take the students at the close of the sophomore year to the forest camp, where for eight weeks they are given both theoretical and practical instruction. During the junior and the first half of the senior years they pursue their studies at the college. The last half of their senior year they are again taken to the forest, where they receive instruction under conditions which experience has shown are essential to the preparation of seasoned foresters. When the forestry courses were first established the students went to the forest camp at the close of the junior year.

There are three reasons for changing the camping period to the close of the sophomore year:

First, it serves to weed out the faint hearted. The young fellow who thought forestry was a pink tea was promptly disillusioned and probably eliminated. Second, it enables the student to appreciate better the technical subjects which he will pursue during his junior and senior years. Third, it offers the student during his junior vacation an opportunity to secure employment in his chosen field, thus furnishing money with which to continue his education and valuable practical experience.

Applying this principal to our own problem, we may send sophomores who would specialize in dairying or animal husbandry to Davis, those who would specialize in agronomy either to Davis or Fresno, and those who wish to engage in horticultural pursuits or landscape gardening to Fresno or Riverside. When we have a department of Forestry, students can go to the forestry station at Chico or at Santa Monica. Students interested in strictly subtropical fruits can be taught at the Imperial Station some of the conditions of management in these rapidly developing and truly fascinating crops. Students who specialize in soils could be taken into the soil survey work and given actual training in soil mapping. If the option is Agricultural Chemistry, Plant Pathology or Entomology, the student will find the laboratories at Berkeley open to him, while students of agricultural education will find their training ground in connection with the regular summer school work of the University.

As we are now organized, students may go to Davis the last half of their senior year, where they can receive instruction in certain subjects which are developed better there than at Berkeley. This is notably true of instruction in animal husbandry and dairy industry.

While the University Farm at Davis is an exceedingly important factor in the development of the research work and is becoming a much more important factor than was anticipated in the training of University students, its most unique feature is the instruction given to University Farm

School students. In this school an attempt is being made to solve the most important educational question in this country. We have in America a perfectly well understood system of education:

Primary grade	7 to 10
Grammar grade	11 to 14
High school grade	15 to 18
University grade	19 to 22
Post-graduate work	23 to 25

This is a thoroughly desirable system of education and one that should be extended to apply as nearly as possible to every young man and woman. There are, however, large numbers of young men who have reached the age of 19 who do not have the requirements for admission to college. They will not go to the high school because they are beyond high school age. They could not get the proper instruction if they did go, because the method of instruction must be different for students at 19 and those of 15 years. Age must be recognized as a factor in education. A young man or woman at 19 differs from the boy or girl of 15, physically, mentally, morally and spiritually. One hundred and twenty students entered the University Farm School at Davis this semester and 118 entered as freshmen in the College of Agriculture at Berkeley. The average age of the intrants at Davis was 19 years and 4 months; the average age of the freshman intrants in agriculture, 20 years and 5 months.

An agricultural high school is not being conducted at Davis, but there is being given a three years' course in Agriculture to students of university age who do not have the requirements for admission to college. In addition to the students who come to Davis because they do not have the requirements to enter college, there are high school graduates who desire to spend only two years in further study and who find the last two years at Davis upon which they can enter better suited to their needs than the first two years at Berkeley. Every effort should be made to meet

the needs of this class of men. The minimum age of entrance at Davis should be raised to 18 years, first, because the student should be induced to exhaust his local agencies of education before entering the farm school, and second, because when he has completed his three years' work he should be mature enough to enter upon business for himself.

Emphasis should be placed upon the fact that the training offered at Davis has nothing to do with the introduction of agriculture into the high schools. This should be done, but it is a wholly different thing. The high school system should be so arranged that every boy and girl between the ages of 15 and 18 can sleep at home. The boys and girls between these ages need their parents, and equally important, perhaps, the parents need the children. Eighteen is the accepted age for breaking home ties. From 18 to 22 is that transitional period during which the young man or woman gets adjusted to his or her surroundings. A student enters college a boy and leaves it a man. In some ways this is the most important fact concerning his university career. If this view be accepted, it will at once become apparent that the University Farm School at Davis is not a local institution. It may be just as useful to the young man who lives in Imperial Valley or in Butte County as to one born within five miles of Davis.

Unless the ranches of California are to be abandoned or are to be cultivated by foreigners, there are in California at this moment more than 8000 young men between the ages of 18 and 21 who will some day occupy the land. Less than six hundred are now receiving instruction in Agriculture at Berkeley and Davis. In a comparatively few years, a thousand students of agriculture will be enrolled at each place unless we do something to stop them. It should be determined at once what is the most efficient number that can be accommodated at Davis. It should be determined whether it is to be 300, or 600, or 1000. Plans should be made to start a new unit at Fresno as soon

as the most efficient number that can be cared for at Davis is reached. At Fresno, where the University owns 5000 acres of land, there is an opportunity to build up the most extensive, most varied, and best instruction in horticulture, both for farm school and university, that is to be found in the world. No other such possibility exists anywhere. At Davis special emphasis should be placed upon dairying, animal husbandry and deciduous tree fruits. At Fresno, the emphasis should be placed upon grapes, citrus and other sub-tropical fruits and upon alfalfa and other forage crops. Instruction and investigations in cereals should be developed at both places. Under the conditions outlined a young man from Bakersfield or El Centro might go to Davis to receive instruction in animal husbandry and dairying, while the young man from Marysville might go to Fresno to specialize in horticultural subjects.

The tentative organization and scope of the College of Agriculture has been set forth with a good deal of tedious detail. I am frank to say that it has been done with a very definite purpose. The desire has been to make emphatic three points:

First—The College of Agriculture is located in California. Berkeley, Riverside, Whittier, Davis, Meloland and other places are merely points of operation. Los Angeles is the headquarters of the Santa Fe Railroad, but the Santa Fe Railroad is not located in Los Angeles. Last year the College of Agriculture met face to face 150,000 citizens of California.

Second—The work which is carried on at Berkeley, Whittier and Davis is not primarily for the development of the immediate localities, but is a part of a general scheme of education and research which looks toward promoting the general welfare of the commonwealth. The establishment of the Citrus Experiment Station is not primarily for the purpose of promoting the raising of oranges in Riverside County, but is for the purpose of studying problems

which are of the greatest importance wherever agriculture exists under an irrigation ditch.

Third—Any additional points of operation which it may hereafter be deemed wise to establish must be considered from the standpoint of the general plan which has just been outlined and of the public welfare and not from the standpoint of local interest. I have faith that the people of California will rise to this high level.

The programme which has been outlined is a large one. It is worthy of a great State. For its success, it needs the help of every citizen. I believe it to be both logical and feasible. I ask for it the candid criticism of every person interested in the public welfare. With the assured and earnest support which this programme has of the President and Board of Regents, I have faith to believe—and I am saying this in the most impersonal and detached way—that it must succeed. I trust that President Wheeler was prophetic when he remarked several months ago, "I believe it will appeal to the people of California. They like to do a good thing."

UNIVERSITY OF CALIFORNIA
ESTIMATE FOR 65th AND 66th FISCAL YEARS

GENERAL APPROPRIATION BILL

Support and Maintenance of the University	- - - - -	\$400,000
Credit at State Printing Office	- - - - -	12,000
Agriculture (Support and Maintenances of all Branches)	- - - - -	814,360
Total General	- - - - -	\$1,226,360

SPECIAL APPROPRIATION BILLS

New North Hall	- - - - -	\$400,000
Impairment of Income	- - - - -	62,000
Replacement of Buildings and Equipment at Lick Observatory	- - - - -	50,000
University Extension	- - - - -	20,000
Los Angeles Medical Department	- - - - -	45,000
Two Dormitories at Davis, California	- - - - -	80,000
Dining Hall at Davis, California	- - - - -	10,000
Class Room and Library Building at Davis	- - - - -	65,000
Small Buildings at Davis	- - - - -	20,000
200 Acres for Experiment Station in Southern California	- - - - -	60,000
Laboratory Building for Experiment Station in Southern California,	100,000	
Residence, Barns, etc.,	" " " " "	25,000
		\$937,000

SUMMARY OF EXPENDITURES

General Appropriation	- - - - -	1,226,360
Special Appropriation	- - - - -	937,000
State University Fund — California State: 1911-1914	- - - - -	1,682,000
Total for the Two Years Ending June 30, 1915	- - - - -	\$3,845,360

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